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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,546

05/02/2005

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25944 7590 04/04/2008
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EXAMINER

JACKSON, MONIQUE R

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

04/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,546	Applicant(s) SAKURAI ET AL.	
	Examiner Monique R. Jackson	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The term "mirror-thin" in claims 11-16 and 20-25 is a relative term which renders the claim indefinite. The term "mirror-thin" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Hence, it is unclear how "thin" the film needs to be in order to be considered "mirror-thin". Similarly, the terms "substantially identical" and "substantially no" in Claims 17 and 20, respectively, are relative terms which further render these claims indefinite given the lack of clarity with regards to the "substantially identical" resin and "substantially no" sodium.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Aonuma (USPN 6,398,854.) Aonuma teaches a chemical solution for forming a silver film on a substrate wherein the resulting coated substrate comprises a silver mirror film on the surface of the substrate, and a coated film of transparent resin on the silver film, wherein the Examiner takes the position that the silver film taught by Aonuma contains “substantially no sodium” (Abstract; Col. 2; Examples.)

5. Claim 20 is rejected under 35 U.S.C. 102(b) as being anticipated by Pitts et al (USPN 4,547,432.) Pitts et al teach a mirror comprising a substrate, a silver layer formed on the substrate by vacuum deposition and a transparent resin coating provided over the mirrored surface, wherein the silver layer formed by deposition would inherently be free of sodium (Figures; Claims.)

6. Claims 11 and 12 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Tratzky et al (USPN 6,902,761.) Tratzky et al teach a method of coating a glass substrate with a metallic mirror surface utilizing an ammoniac caustic soda solution, a reduction solution, and an ammoniac silver nitrate solution, mixed in a predetermined sequence in a special mixing vessel to form a mirror-coating solution and applying the coating solution to the interior surface of a glass tube (Col. 3, lines 54-Col. 4, line 15.)

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11-19 and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aonuma. As discussed above, Aonuma teaches an aqueous chemical solution for forming a silver mirror layer on a substrate, such as a transparent glass substrate, wherein Aonuma teaches that the chemical solution comprises: (1) an ammoniac silver nitrate solution; (2) a reducing solution containing a reducing agent and a base component; and (3) an additive containing a compound of a polyvalent metal contained in at least one of the ammoniac silver nitrate solution and the reducing solution (Abstract.) Aonuma teaches that the process of forming the silver film includes (a) bringing a hydrochloric acid acidified stannous chloride solution into contact with a surface of the substrate, thereby conducting a pretreatment of the surface; (b) bringing another ammoniac silver nitrate solution into contact with the surface of the substrate; and (c) bringing the ammoniac silver nitrate solution into contact with the reducing solution, on the surface of the substrate, thereby forming the silver film (Abstract.) Aonuma teaches that the nitrate solution and reducing solution are simultaneously sprayed and mixed on the transparent glass substrate (Col. 2, lines 24-30.) Aonuma teaches that a suitable additive can be bismuth carbonate, or other Bi(III) compounds and further teaches examples wherein the amount of silver in the nitrate solutions falls within the claimed range (Col. 2, lines 62-65.) Though Aonuma teaches the use of three separate aqueous solutions in forming the silver film, Aonuma does not teach the use of an ammoniacal silver carbonate solution or a caustic soda however both types of aqueous solution are known, conventional solutions utilized in producing silver thin coatings wherein silver carbonate is typically an intermediate compound resulting from the reaction of silver nitrate with a carbonate compound prior to reduction to the silver coating, as well as a functionally

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equivalent silver salt compound; and the caustic soda is known to be utilized for conditioning the pH value of the mirror-coating solution. Hence, it would have been obvious to one having ordinary skill in the art at the time of the invention to further mix other silver salt solutions such as silver carbonate, as well a caustic soda solution, with the solutions taught by Aonuma, in any mixing order, wherein one skilled in the art at the time of the invention would have been motivated to utilize routine experimentation to determine the optimum amount of sodium and silver in the solutions, with typical amounts falling within the claimed ranges. Lastly, though Aonuma teaches pretreatment of the substrate to improve adhesion of the silver film to the substrate, Aonuma does not specifically teach a resin primer layer, however, it is well established in the art that a primer layer, such as a primer comprising an acrylic or alkyd or resin similar to the resin utilized as a protective coating to reduce the number of coating compositions needed, can be applied between the substrate and silver layer to improve adhesion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R. Jackson whose telephone number is 571-272-1508. The examiner can normally be reached on Mondays-Thursdays, 10:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Monique R Jackson/
Primary Examiner, Art Unit 1794
March 29, 2008